



SEQUENCE LISTING

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<170> PatentIn 3.0

<210> 1

<211> 137

<212> Protein

<213> Human

<220>

<221> misc-feature

<222> Synthetic polypeptide J chain

<400> 1

Gln Glu Asp Glu Arg Ile Val Leu Val Asp Asn Lys Cys Lys Cys Ala
1 5 10 15

Arg Ile Thr Ser Arg Ile Ile Arg Ser Ser Glu Asp Pro Asn Glu Asp
20 25 30

Ile Val Glu Arg Asn Ile Arg Ile Ile Val Pro Leu Asn Asn Arg Glu
35 40 45

Asn Ile Ser Asp Pro Thr Ser Pro Leu Arg Thr Arg Pro Val Tyr His
50 55 60

Leu Ser Asp Leu Cys Lys Lys Cys Asp Pro Thr Glu Val Glu Leu Asp
65 70 75 80

Asn Gln Ile Val Thr Ala Thr Gln Ser Asn Ile Cys Asp Glu Asp Ser
85 90 95

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Ala Thr Glu Thr Cys Tyr Thr Tyr Asp Arg Asn Lys Cys Tyr Thr Ala
 100 105 110

Val Val Pro Leu Val Tyr Gly Gly Glu Thr Lys Met Val Glu Thr Ala
 115 120 125

Leu Thr Pro Asp Ala Cys Tyr Pro Asp
 130 135

<210> 2

<211> 135

<212> Protein

<213> Mouse

<220>

<221> misc-feature

<222> Synthetic polypeptide J chain

<400> 2

Gln Asp Glu Asn Glu Arg Ile Val Val Asp Asn Lys Cys Lys Cys Ala
 1 5 10 15

Arg Ile Thr Ser Arg Ile Ile Pro Ser Ala Glu Asp Pro Ser Gln Asp
 20 25 30

Ile Val Glu Arg Asn Val Arg Ile Ile Val Pro Leu Asn Ser Arg Glu
 35 40 45

Asn Ile Ser Asp Pro Thr Ser Pro Met Arg Thr Lys Pro Val Tyr His
 50 55 60

Leu Ser Asp Leu Cys Lys Lys Cys Asp Thr Thr Glu Val Glu Leu Glu
 65 70 75 80

Asp Gln Val Val Thr Ala Ser Gln Ser Asn Ile Cys Asp Ser Asp Ala
 85 90 95

Glu Thr Cys Tyr Thr Tyr Asp Arg Asn Lys Cys Tyr Thr Asn Arg Val
 100 105 110

Lys Leu Ser Tyr Arg Gly Gln Thr Lys Met Val Glu Thr Ala Leu Thr
 115 120 125

Pro Asp Ser Cys Tyr Pro Asp
 130 135

<210> 3
 <211> 137
 <212> Protein
 <213> Rabbit

<220>
 <221> misc-feature
 <222> Synthetic polypeptide J chain

<400> 3
 Asp Asp Glu Ala Thr Ile Leu Ala Asp Asn Lys Cys Met Cys Thr Arg
 1 5 10 15
 Val Thr Ser Arg Ile Ile Pro Ser Thr Glu Asp Pro Asn Glu Asp Ile
 20 25 30
 Val Glu Arg Asn Ile Arg Ile Val Val Pro Leu Asn Asn Arg Glu Asn
 35 40 45
 Ile Ser Asp Pro Thr Ser Pro Leu Arg Arg Asn Pro Val Tyr His Leu
 50 55 60
 Ser Asp Val Cys Lys Lys Cys Asp Pro Val Glu Val Glu Leu Glu Asp
 65 70 75 80
 Gln Val Val Thr Ala Thr Gln Ser Asn Ile Cys Asn Glu Asp Asp Gly
 85 90 95
 Val Pro Glu Thr Cys Tyr Met Tyr Asp Arg Asn Lys Cys Tyr Thr Thr
 100 105 110
 Met Val Pro Leu Arg Tyr His Gly Glu Thr Lys Met Val Gln Ala Ala
 115 120 125
 Leu Thr Pro Asp Ser Cys Tyr Pro Asp
 130 135

<210> 4
 <211> 136
 <212> Protein
 <213> Bovine

<220>
 <221> misc-feature
 <222> Synthetic polypeptide J chain

<400> 4
 Glu Asp Glu Ser Thr Val Leu Val Asp Asn Lys Cys Gln Cys Val Arg
 1 5 10 15
 Ile Thr Ser Arg Ile Ile Arg Asp Pro Asp Asn Pro Ser Glu Asp Ile
 20 25 30
 Val Glu Arg Asn Ile Arg Ile Ile Val Pro Leu Asn Thr Arg Glu Asn
 35 40 45
 Ile Ser Asp Pro Thr Ser Pro Leu Arg Thr Glu Pro Lys Tyr Asn Leu
 50 55 60
 Ala Asn Leu Cys Lys Lys Cys Asp Pro Thr Glu Ile Glu Leu Asp Asn
 65 70 75 80
 Gln Val Phe Thr Ala Ser Gln Ser Asn Ile Cys Pro Asp Asp Asp Tyr
 85 90 95
 Ser Glu Thr Cys Tyr Thr Tyr Asp Arg Asn Lys Cys Tyr Thr Thr Leu
 100 105 110
 Val Pro Ile Thr His Arg Gly Val Thr Arg Met Val Lys Ala Thr Leu
 115 120 125
 Thr Pro Asp Ser Cys Tyr Pro Asp
 130 135

<210> 5
<211> 119
<212> Protein
<213> Bull frog

<220>
<221> misc-feature
<222> Synthetic polypeptide J chain

<400> 5
Glu Gln Glu Tyr Ile Leu Ala Asn Asn Lys Cys Lys Cys Val Lys Ile
1 5 10 15
Ser Ser Arg Phe Val Pro Ser Thr Glu Arg Pro Gly Glu Glu Ile Leu
20 25 30
Glu Arg Asn Ile Gln Ile Thr Ile Pro Thr Ser Ser Arg Met Xaa Ile
35 40 45
Ser Asp Pro Tyr Ser Pro Leu Arg Thr Gln Pro Val Tyr Asn Leu Trp
50 55 60
Asp Ile Cys Gln Lys Cys Asp Pro Val Gln Leu Glu Ile Gly Gly Ile
65 70 75 80
Pro Val Leu Ala Ser Gln Pro Xaa Xaa Ser Xaa Pro Asp Asp Glu Cys
85 90 95
Tyr Thr Thr Glu Val Asn Phe Lys Lys Lys Val Pro Leu Thr Pro Asp
100 105 110
Ser Cys Tyr Glu Tyr Ser Glu
115

<210> 6
<211> 129
<212> Protein
<213> Earthworm

<220>
<221> misc-feature
<222> Synthetic polypeptide J chain

<400> 6
Asn Lys Cys Met Cys Thr Arg Val Thr Ala Arg Ile Arg Gly Thr Arg
1 5 10 15
Glu Asp Pro Asn Glu Asp Ile Val Glu Arg Tyr Ile Arg Ile Asn Val
20 25 30
Pro Leu Lys Asn Arg Gly Asn Ile Ser Asp Pro Thr Ser Pro Leu Arg
35 40 45

Asn Gln Pro Val Tyr His Leu Ser Pro Ser Cys Lys Lys Cys Asp Pro
 50 55 60

Tyr Glu Asp Gly Val Val Thr Ala Thr Glu Thr Asn Ile Cys Tyr Pro
 65 70 75 80

Asp Gln Gly Val Pro Gln Ser Cys Arg Asp Tyr Cys Pro Glu Leu Asp
 85 90 95

Arg Asn Lys Cys Tyr Thr Val Leu Val Pro Pro Gly Tyr Thr Gly Glu
 100 105 110

Thr Lys Met Val Gln Asn Ala Leu Thr Pro Asp Ala Cys Tyr Pro Asp
 115 120 125

<210> 7

<211> 421

<212> DNA

<213> Artificial Sequence

<220>

<221> CDS

<222> (1)..(414)

<220>

<221> misc-feature

<222> Description of Artificial Sequence: Synthetic polypeptide including target of "full length" TM cDNA

<400> 7

GAT CAG GAA GAT GAA CGT ATT GTT CTG GTT GAC AAC AAG TGC AAG TGT 48
 Asp Gln Glu Asp Glu Arg Ile Val Leu Val Asp Asn Lys Cys Lys Cys
 1 5 10 15

GCT CGT ATT ACT TCT AGA ATC ATC CGT AGC TCA GAG GAC CCA AAT GAA 96
 Ala Arg Ile Thr Ser Arg Ile Ile Arg Ser Ser Glu Asp Pro Asn Glu
 20 25 30

GAT ATA GTC GAA CGT AAC ATC CGT ATC ATC GTC CCA CTG AAT AAC CGG 144
 Asp Ile Val Glu Arg Asn Ile Arg Ile Ile Val Pro Leu Asn Asn Arg
 35 40 45

GAG AAT ATC TCA GAT CCT ACA AGT CCG TTG CGC ACA CGC TTC GTA TAC 192
 Glu Asn Ile Ser Asp Pro Thr Ser Pro Leu Arg Thr Arg Phe Val Tyr
 50 55 60

CAC CTG TCA GAT CTG TGT AAG AAG TGT GAT CCA ACA GAG GTA GAG CTG 240
 His Leu Ser Asp Leu Cys Lys Lys Cys Asp Pro Thr Glu Val Glu Leu
 65 70 75 80

GAC AAT CAG ATA GTC ACT GCG ACT CAA AGC AAC ATT TGC GAT GAG GAC	288
Asp Asn Gln Ile Val Thr Ala Thr Gln Ser Asn Ile Cys Asp Glu Asp	
85 90 95	
AGC GCT ACA GAA ACC TGC AGC ACC TAC GAT AGG AAC AAA TGC TAC ACG	336
Ser Ala Thr Glu Thr Cys Ser Thr Tyr Asp Arg Asn Lys Cys Tyr Thr	
100 105 110	
GCC GTG GTT CCG CTC GTG TAT GGT GGA GAG ACA AAA ATG GTG GAA ACT	384
Ala Val Val Pro Leu Val Tyr Gly Gly Glu Thr Lys Met Val Glu Thr	
115 120 125	
GCC CTT ACG CCC GAT GCA TGC TAT CCG GAC TGAATTC	421
Ala Leu Thr Pro Asp Ala Cys Tyr Pro Asp	
130 135	
<210> 8	
<211> 215	
<212> DNA	
<213> Artificial Sequence	
<220>	
<221> CDS	
<222> (1)..(213)	
<220>	
<221> misc-feature	
<222> Description of Artificial Sequence: Nucleotide sequence of Core TM cDNA	
<400> 8	
GAT CAG AAG TGC AAG TGT GCT CGT ATT ACT TCT AGA ATC ATC CGT AGC	48
Asp Gln Lys Cys Lys Cys Ala Arg Ile Thr Ser Arg Ile Ile Arg Ser	
1 5 10 15	
TCA GAG GAC CCA AAT GAA GAT ATA GTC GAA CGT AAC ATC CGT ATC ATC	96
Ser Glu Asp Pro Asn Glu Asp Ile Val Glu Arg Asn Ile Arg Ile Ile	
20 25 30	
GTC CCA CTG AAT AAC CGG GAG AAT ATC TCA GAT CCT ACA AGT CCG TTG	144
Val Pro Leu Asn Asn Arg Glu Asn Ile Ser Asp Pro Thr Ser Pro Leu	
35 40 45	
CGC ACA CGC TTC GTA TAC CAC CTG TCA GAT CTG TGT AAG AAG GAT GAG	192
Arg Thr Arg Phe Val Tyr His Leu Ser Asp Leu Cys Lys Lys Asp Glu	
50 55 60	
GAC AGC GCT ACA GAA ACC TGC TG	215
Asp Ser Ala Thr Glu Thr Cys	
65 70	

<210> 9
 <211> 140
 <212> DNA
 <213> Artificial Sequence

 <220>
 <221> misc-feature
 <222> Description of Artificial Sequence: Nucleotide sequence of C2 fragment

<400> 9
 CTAGAATCAT CCGTAGCTCA GAGGACCCAA ATGAAGATAT AGTCGAACGT AACATCCGTA 60
 TCATCGTCCC ACTGAATAAC CGGGAGAATA TCTCAGATCC TACAAGTCCG TTGCGCACAC 120
 GCTTCGTATA CCACCTGTCA 140

<210> 10
 <211> 31
 <212> DNA
 <213> Artificial Sequence

 <220>
 <221> misc-feature
 <222> Description of Artificial Sequence: Nucleotide sequence of D1.1 fragment

<400> 10
 GATCAGAAGT GCAAGTGTGC TCGTATTACT T 31

<210> 11
 <211> 44
 <212> DNA
 <213> Artificial Sequence

<220>
 <221> CDS
 <222> (1)..(42)

<220>
 <221> misc-feature
 <222> Description of Artificial Sequence: Nucleotide sequence of L3D fragment

<400> 11
 GAT CTG TGT AAG AAG GAT GAA GAT TCC GCT ACA GAA ACC TGC 42
 Asp Leu Cys Lys Lys Asp Glu Asp Ser Ala Thr Glu Thr Cys
 75 80 85

TG 44

<210> 12
 <211> 109
 <212> DNA
 <213> Artificial Sequence

 <220>
 <221> misc-feature
 <222> Description of Artificial Sequence: Nucleotide sequence of T4 fragment

 <400> 12
 GCACCTACGA TAGGAACAAA TGCTACACGG CCGTGGTTCC GCTCGTGTAT GGTGGAGAGA 60
 CAAAAATGGT GGAAACTGCC CTTACGCCCG ATGCATGCTA CCCTGACTG 109

 <210> 13
 <211> 286
 <212> DNA
 <213> Artificial Sequence

 <220>
 <221> CDS
 <222> (1)..(282)

 <220>
 <221> misc-feature
 <222> Description of Artificial Sequence: Nucleotide sequence of Core TM
 cDNA using L3

 <400> 13
 GAC AAC AAG TGC AAG TGT GCT CGT ATT ACT TCT AGA ATC ATC CGT AGC 48
 Asp Asn Lys Cys Lys Cys Ala Arg Ile Thr Ser Arg Ile Ile Arg Ser
 15 20 25 30
 TCA GAG GAC CCA AAT GAA GAT ATA GTC GAA CGT AAC ATC CGT ATC ATC 96
 Ser Glu Asp Pro Asn Glu Asp Ile Val Glu Arg Asn Ile Arg Ile Ile
 35 40 45
 GTC CCA CTG AAT AAC CGG GAG AAT ATC TCA GAT CCT ACA AGT CCG TTG 144
 Val Pro Leu Asn Asn Arg Glu Asn Ile Ser Asp Pro Thr Ser Pro Leu
 50 55 60
 CGC ACA CGC TTC GTA TAC CAC CTG TCA GAT CTG TGT AAG AAG TGT GAT 192
 Arg Thr Arg Phe Val Tyr His Leu Ser Asp Leu Cys Lys Lys Cys Asp
 65 70 75
 CCA ACA GAG GTA GAG CTG GAC AAT CAG ATA GTC ACT GCG ACT CAA AGC 240
 Pro Thr Glu Val Glu Leu Asp Asn Gln Ile Val Thr Ala Thr Gln Ser
 80 85 90

<210> 16
 <211> 61
 <212> DNA
 <213> Artificial Sequence

<220>
 <221> misc-feature
 <222> Description of Artificial Sequence: Nucleotide sequence of TpS2

<400> 16
 GCGATGACGA CGATAAGGCC CAAACGGAGA CCTGTACTGT TGCGCCTCGT GAACGGCAAA 60
 ACTGCGGATT CCCGGAAGTA ACACCCTCTC AGTGCGCTAA TAAAGGCTGC TGTTTTGATG 120
 ACACGGTACG GGGCGTTCCG TGGTGCTTCT ACCCCAATAC AATTGACGTT CCGCCTGAAG 180
 AAGAGTGCGA GCCGTAAG 198

<210> 17
 <211> 138
 <212> Protein
 <213> Artificial Sequence

<220>
 <221> misc-feature
 <222> Description of Artificial Sequence: Synthetic polypeptide of "full length" TM cDNA

<400> 17
 Asp Gln Glu Asp Glu Arg Ile Val Leu Val Asp Asn Lys Cys Lys Cys
 1 5 10 15
 Ala Arg Ile Thr Ser Arg Ile Ile Arg Ser Ser Glu Asp Pro Asn Glu
 20 25 30
 Asp Ile Val Glu Arg Asn Ile Arg Ile Ile Val Pro Leu Asn Asn Arg
 35 40 45
 Glu Asn Ile Ser Asp Pro Thr Ser Pro Leu Arg Thr Arg Phe Val Tyr
 50 55 60
 His Leu Ser Asp Leu Cys Lys Lys Cys Asp Pro Thr Glu Val Glu Leu
 65 70 75 80
 Asp Asn Gln Ile Val Thr Ala Thr Gln Ser Asn Ile Cys Asp Glu Asp
 85 90 95
 Ser Ala Thr Glu Thr Cys Ser Thr Tyr Asp Arg Asn Lys Cys Tyr Thr
 100 105 110
 Ala Val Val Pro Leu Val Tyr Gly Gly Glu Thr Lys Met Val Glu Thr
 115 120 125

Ala Leu Thr Pro Asp Ala Cys Tyr Pro Asp
 130 135

<210> 18
 <211> 71
 <212> Protein
 <213> Artificial Sequence

<220>
 <221> misc-feature
 <222> Description of Artificial Sequence: Synthetic polypeptide of Core TM
 cDNA

<400> 18
 Asp Gln Lys Cys Lys Cys Ala Arg Ile Thr Ser Arg Ile Ile Arg Ser
 1 5 10 15

Ser Glu Asp Pro Asn Glu Asp Ile Val Glu Arg Asn Ile Arg Ile Ile
 20 25 30

Val Pro Leu Asn Asn Arg Glu Asn Ile Ser Asp Pro Thr Ser Pro Leu
 35 40 45

Arg Thr Arg Phe Val Tyr His Leu Ser Asp Leu Cys Lys Lys Asp Glu
 50 55 60

Asp Ser Ala Thr Glu Thr Cys
 65 70

<210> 19
 <211> 49
 <212> Protein
 <213> Artificial Sequence

<220>
 <221> misc-feature
 <222> Description of Artificial Sequence: Synthetic polypeptide of C2
 fragment

<400> 19
 Ser Arg Ile Ile Arg Ser Ser Glu Asp Pro Asn Glu Asp Ile Val Glu
 1 5 10 15

Arg Asn Ile Arg Ile Ile Val Pro Leu Asn Asn Arg Glu Asn Ile Ser
 20 25 30

Asp Pro Thr Ser Pro Leu Arg Thr Arg Phe Val Tyr His Leu Ser Asp
 35 40 45

Leu

<210> 20
 <211> 12
 <212> Protein
 <213> Artificial Sequence

 <220>
 <221> misc-feature
 <222> Description of Artificial Sequence: Synthetic polypeptide of D 1.1 fragment

<400> 20
 Asp Gln Lys Cys Lys Cys Ala Arg Ile Thr Ser Arg
 1 5 10

<210> 21
 <211> 14
 <212> Protein
 <213> Artificial Sequence

<220>
 <221> misc-feature
 <222> Description of Artificial Sequence: Synthetic polypeptide of L3D fragment

<400> 21
 Asp Leu Cys Lys Lys Asp Glu Asp Ser Ala Thr Glu Thr Cys
 1 5 10

<210> 22
 <211> 36
 <212> Protein
 <213> Artificial Sequence

<220>
 <221> misc-feature
 <222> Description of Artificial Sequence: Synthetic polypeptide of T4 fragment

<400> 22
 Ser Thr Tyr Asp Arg Asn Lys Cys Tyr Thr Ala Val Val Pro Leu Val
 1 5 10 15

 Tyr Gly Gly Glu Thr Lys Met Val Glu Thr Ala Leu Thr Pro Asp Ala
 20 25 30

 Cys Tyr Pro Asp
 35

<210> 23
 <211> 93
 <212> Protein
 <213> Artificial Sequence

 <220>
 <221> misc-feature
 <222> Description of Artificial Sequence: Synthetic polypeptide of Core TM
 cDNA using L3

<400> 23
 Asp Asn Lys Cys Lys Cys Ala Arg Ile Thr Ser Arg Ile Ile Arg Ser
 1 5 10 15

 Ser Glu Asp Pro Asn Glu Asp Ile Val Glu Arg Asn Ile Arg Ile Ile
 20 25 30

 Val Pro Leu Asn Asn Arg Glu Asn Ile Ser Asp Pro Thr Ser Pro Leu
 35 40 45

 Arg Thr Arg Phe Val Tyr His Leu Ser Asp Leu Cys Lys Lys Cys Asp
 50 55 60

 Pro Thr Glu Val Glu Leu Asp Asn Gln Ile Val Thr Ala Thr Gln Ser
 65 70 75 80

 Asn Ile Cys Asp Glu Asp Ser Ala Thr Glu Thr Cys Tyr
 85 90

<210> 24
 <211> 35
 <212> Protein
 <213> Artificial Sequence

 <220>
 <221> misc-feature
 <222> Description of Artificial Sequence: Synthetic polypeptide of L3
 fragment

<400> 24
 Asp Leu Cys Lys Lys Cys Asp Pro Thr Glu Val Glu Leu Asp Asn Gln
 1 5 10 15

 Ile Val Thr Ala Thr Gln Ser Asn Ile Cys Asp Glu Asp Ser Ala Thr
 20 25 30

 Leu Trp Thr
 35

<210> 25
<211> 22
<212> Protein
<213> Artificial Sequence

<220>
<221> misc-feature
<222> Description of Artificial Sequence: Synthetic polypeptide of D1
fragment

<400> 25
Asp Gln Glu Asp Glu Arg Ile Val Leu Val Asp Asn Lys Cys Lys Cys
1 5 10 15
Ala Arg Ile Thr Ser Arg
20

<210> 26
<211> 66
<212> Protein
<213> Artificial Sequence

<220>
<221> misc-feature
<222> Description of Artificial Sequence: Synthetic polypeptide of TpS2

<400> 26
Cys Ser Asp Asp Asp Asp Lys Ala Gln Thr Glu Thr Cys Thr Val Ala
1 5 10 15
Pro Arg Glu Arg Gln Asn Cys Gly Phe Pro Gly Val Thr Pro Ser Gln
20 25 30
Cys Ala Asn Lys Gly Cys Cys Phe Asp Asp Thr Val Arg Gly Val Pro
35 40 45
Trp Cys Phe Tyr Pro Asn Thr Ile Asp Val Pro Pro Glu Glu Glu Cys
50 55 60

<210> 27
<211> 421
<212> DNA
<213> Artificial Sequence

<220>
<221> misc-feature
<222> Description of Artificial Sequence: Complementary nucleotide sequence
of "full length" TM cDNA

<400> 27
CTAGTCCTTC TACTTGCATA ACAAGACCAA CTGTTGTTCA CGTTCACACG AGCATAATGA 60

AGATCTTAGT AGGCATCGAG TCTCCTGGGT TTACTTCTAT ATCAGCTTGC ATTGTAGGCA	120
TAGTAGCAGG GTGACTTATT GGCCCTCTTA TAGAGTCTAG GATGTTCAGG CAACGCGTGT	180
GCGAAGCATA TGGTGGACAG TCTAGACACA TTCTTCACAC TAGGTTGTCT CCATCTCGAC	240
CTGTTAGTCT ATCAGTGACG CTGAGTTTCG TTGTAAACGC TACTCCTGTC GCGATGTCTT	300
TGGACGTCGT GGATGCTATC CTTGTTTACG ATGTGCCGGC ACCAAGGCGA GCACATACCA	360
CCTCTCTGTT TTTACCACCT TTGACGGGAA TCGGGGCTAC GTACGATAGG CCTGACTTAA	420
G	421

<210> 28
 <211> 219
 <212> DNA
 <213> Artificial Sequence

 <220>
 <221> misc-feature
 <222> Description of Artificial Sequence: Complementary nucleotide sequence
 of Core TM cDNA

<400> 28	
CTAGTCTTCA CGTTCACACG AGCATAATGA AGATCTTAGT AGGCATCGAG TCTCCTGGGT	60
TTACTTCTAT ATCAGCTTGC ATTGTAGGCA TAGTAGCAGG GTGACTTATT GGCCCTCTTA	120
TAGAGTCTAG GATGTTCAGG CAACGCGTGT GCGAAGCATA TGGTGGACAG TCTAGACACA	180
TTCTTCCTAC TCCTGTCGCG ATGTCTTTGG ACGACTTAA	219

<210> 29
 <211> 140
 <212> DNA
 <213> Artificial Sequence

 <220>
 <221> misc-feature
 <222> Description of Artificial Sequence: Complementary nucleotide sequence
 of C2 fragment

<400> 29	
TTAGTAGGCA TCGAGTCTCC TGGGTTTACT TCTATATCAG CTTGCATTGT AGGCATAGTA	60
GCAGGGTGAC TTATTGGCCC TCTTATAGAG TCTAGGATGT TCAGGCAACG CGTGTGCGAA	120
GCATATGGTG GACAGTCTAG	140

<210> 30
 <211> 31
 <212> DNA
 <213> Artificial Sequence

 <220>
 <221> misc-feature
 <222> Description of Artificial Sequence: Complementary nucleotide sequence
 of D 1.1 fragment

 <400> 30
 TCTTCACGTT CACACGAGCA TAATGAAGAT C 31

 <210> 31
 <211> 44
 <212> DNA
 <213> Artificial Sequence

 <220>
 <221> misc-feature
 <222> Complementary nucleotide sequence of L3D fragment

 <400> 31
 ACACATTCTT CCTACTTCTC AGGCGATGTC TTTGGACGAC TTAA 44

 <210> 32
 <211> 117
 <212> DNA
 <213> Artificial Sequence

 <220>
 <221> misc-feature
 <222> Description of Artificial Sequence: Complementary nucleotide sequence
 of T4 fragment

 <400> 32
 ACGTCGTGGA TGCTATCCTT GTTTACGATG TGCCGGCACC AAGGCGAGCA CATACCACCT 60
 CTCTGTTTTT ACCACCTTTG ACGGGAATGC GGGCTACGTA CGATGGGACT GACTTAA 117

<210> 33
 <211> 282
 <212> DNA
 <213> Artificial Sequence

<220>
 <221> misc-feature
 <222> Description of Artificial Sequence: Complementary nucleotide sequence of Core TM cDNA using L3

<400> 33
 CTGTTGTTCA CGTTCACACG AGCATAATGA AGATCTTAGT AGGCATCGAG TCTCCTGGGT 60
 TTACTTCTAT ATCAGCTTGC ATTGTAGGCA TAGTAGCAGG GTGACTTATT GGCCCTCTTA 120
 TAGAGTCTAG GATGTTTCAGG CAACGCGTGT GCGAAGCATA TGGTGGACAG TCTAGACACA 180
 TTCTTCACAC TAGGTTGTCT CCATCTCGAC CTGTTAGTCT ATCAGTGACG CTGAGTTTCG 240
 TTGTAAACGC TACTCCTGTC GCGATGTCTT TGGACGATGA CT 282

<210> 34
 <211> 105
 <212> DNA
 <213> Artificial Sequence

<220>
 <221> misc-feature
 <222> Description of Artificial Sequence: Complementary nucleotide sequence of L3 fragment

<400> 34
 GATCTGTGTA AGAAGTGTGA TCCAACAGAG GTAGAGCTGG ACAATCAGAT AGTCACTGCC 60
 ACTCAAAGCA ACATTTGCGA TGAGGACAGC GCTACACTTT GGACG 105

<210> 35
 <211> 65
 <212> DNA
 <213> Artificial Sequence

<220>
 <221> misc-feature
 <222> Description of Artificial Sequence: Complementary nucleotide sequence of D1 fragment

<400> 35
 CTAGTCCTTC TACTTGCATA ACAAGACCAA CTGTTGTTCA CGTTCACACG AGCATAATGA 60
 AGATC 65

<210> 36
 <211> 206
 <212> DNA
 <213> Artificial Sequence

 <220>
 <221> misc-feature
 <222> Description of Artificial Sequence: Complementary nucleotide sequence
 of Tps2

<400> 36
 ACTTCGCTAC TGCTGCTATT CCGGGTTTGC CTCTGGACAT GACAACGCGG AGCACTTGCC 60

 GTTTTGACGC CTAAGGGCCT TCATTGTGGG AGAGTCACGC GATTATTTCC GACGACAAAA 120

 CTACTGTGCC ATGCCCCGCA AGGCACCACG AAGATGGGGT TATGTTA ACT GCAAGGCGGA 180

 CTTCTTCTCA CGCTCGGCAT TCTTAA 206

<210> 37
 <211> 13
 <212> Protein
 <213> Artificial Sequence

 <220>
 <221> misc-feature
 <222> Description of Artificial Sequence: Domain 1, 13 amino peptide with
 substantial β -sheet character

<400> 37
 Asp Gln Glu Asp Glu Arg Ile Val Leu Val Asp Asn Lys
 1 5 10

<210> 38
 <211> 7
 <212> Protein
 <213> Tobacco etch virus

<220>
 <221> misc-feature
 <222> Peptide recognized by the tobacco etch virus protease Nia

<400> 38
 Glu Asn Leu Tyr Phe Gln Ser
 1 5

<210> 39
 <211> 11
 <212> Protein
 <213> Artificial Sequence

 <220>
 <221> misc-feature
 <222> Description of Artificial Sequence: Synthetic polypeptide residues
 from pro-cathepsin E

 <400> 39
 Lys Ala His Lys Val Asp Met Val Gln Tyr Thr
 1 5 10

 <210> 40
 <211> 4
 <212> Protein
 <213> Artificial Sequence

 <220>
 <221> misc-feature
 <222> Description of Artificial Sequence: Linker from procathepsin

 <400> 40
 Val Gln Tyr Thr
 1

 <210> 41
 <211> 6
 <212> Protein
 <213> Human

 <220>
 <221> misc-feature
 <222> Linker from polyimmunoglobulin receptor

 <400> 41
 Glu Lys Ala Val Ala Asp
 1 5

<210> 42
 <211> 131
 <212> DNa
 <213> Artificial Sequence

 <220> CDS
 <221> 1..78
 <222> Description of Artificial Sequence: Nucleotide sequence of secretion
 signal from pMelBac

<400> 42
 ATG AAA TTC TTA GTC AAC GTT GCC CTT TTT ATG GTC GTA TAC ATT TCT 48
 Met Lys Phe Leu Val Asn Val Ala Leu Phe Met Val Val Tyr Ile Ser
 40 45 50

 TAC ATC TAT GCG GAT CCG AGC TCG AGT GCT CTAGATCTGC AGCTGGTACC 98
 Tyr Ile Tyr Ala Asp Pro Ser Ser Ser Ala
 55 60

 ATGGAATTCG AAGCTTGGAG TCGACTCTGC TGA 131

<210> 43
 <211> 26
 <212> Protein
 <213> Artificial Sequence

 <220>
 <221> misc-feature
 <222> Description of Artificial Sequence: Synthetic polypeptide sequence of
 secretion signal from pMelBac

<400> 43
 Met Lys Phe Leu Val Asn Val Ala Leu Phe Met Val Val Tyr Ile Ser
 1 5 10 15

 Tyr Ile Tyr Ala Asp Pro Ser Ser Ser Ala
 20 25

<210> 44
 <211> 4
 <212> Protein
 <213> Artificial Sequence

 <220>
 <221> misc-feature
 <222> Description of Artificial Sequence: Endomembrane retention signal

 <400> 44
 Lys Asp Glu Leu
 1

<210> 45
 <211> 16
 <212> Protein
 <213> Human

 <220>
 <221> misc-feature
 <222> Residues 585-600 of polyimmunoglobulin receptor

 <400> 45
 Ala Ile Gln Asp Pro Arg Leu Phe Ala Glu Glu Lys Ala Val Ala Asp
 1 5 10 15

 <210> 46
 <211> 61
 <212> DNA
 <213> Artificial Sequence

 <220>
 <221> misc-feature
 <222> Description of Artificial Sequence: Oligonucleotide 1

 <400> 46
 GATCAGGAAG ATGAACGTAT TGTCTGGTT GACAACAAGT GCAAGTGTGC TCGTATTACT 60
 T 61

 <210> 47
 <211> 61
 <212> DNA
 <213> Artificial Sequence

 <220>
 <221> misc-feature
 <222> Description of Artificial Sequence: Oligonucleotide 2

 <400> 47
 CTAGAAGTAA TACGAGCACA CTTGCACTTG TTGTCAACCA GAACAATACG TTCATCTTCC 60
 T 61

 <210> 48
 <211> 31
 <212> DNA
 <213> Artificial Sequence

 <220>
 <221> misc-feature
 <222> Description of Artificial Sequence: Oligonucleotide 1.1

 <400> 48
 GATCAGAAGT GCAAGTGTGC TCGTATTACT T 31

<210> 49
<211> 6
<212> DNA
<213> Artificial Sequence

<220>
<221> misc-feature
<222> Description of Artificial Sequence: Oligonucleotide 1.2

<400> 49
CTAGAAGTAA TACGAGCACA CTTGCACTTC T 31

<210> 50
<211> 61
<212> DNA
<213> Artificial Sequence

<220>
<221> misc-feature
<222> Description of Artificial Sequence: Oligonucleotide 1.2ser

<400> 50
GATCAGGAAG ATGAACGTAT TGTTCTGGTT GACAACAAGT GCAAGTCCGC TCGTATTACT 60
T 61

<210> 51
<211> 61
<212> DNA
<213> Artificial Sequence

<220>
<221> misc-feature
<222> Description of Artificial Sequence: Oligonucleotide 2.2ser

<400> 51
CTAGAAGTAA TACGAGCGGA CTTGCACTTG TTGTCAACCA GAACAATACG TTCATCTTCC 60
T 61

<210> 52
 <211> 61
 <212> DNA
 <213> Artificial Sequence

 <220>
 <221> misc-feature
 <222> Description of Artificial Sequence: Oligonucleotide 1.2val

 <400> 52
 GATCAGGAAG ATGAACGTAT TGTTC TGGTT GACAACAAGT GCAAGGTTGC TCGTATTACT 60
 T 61

 <210> 53
 <211> 61
 <212> DNA
 <213> Artificial Sequence

 <220>
 <221> misc-feature
 <222> Description of Artificial Sequence: Oligonucleotide 2.2val

 <400> 53
 CTAGAAGTAA TACGAGCAAC CTTGCACTTG TTGTCAACCA GAACAATACG TTCATCTTCC 60
 T 61

 <210> 54
 <211> 61
 <212> DNA
 <213> Artificial Sequence

 <220>
 <221> misc-feature
 <222> Description of Artificial Sequence: Oligonucleotide 3

 <400> 54
 CTAGAATCAT CCGTAGCTCA GAGGACCCAA ATGAAGATAT AGTCGAA 47

 <210> 55
 <211> 58
 <212> DNA
 <213> Artificial Sequence

 <220>
 <221> misc-feature
 <222> Description of Artificial Sequence: Oligonucleotide 4

 <400> 55
 GATACGGATG TTACGTTCTGA CTATATCTTC ATTTGGGTCC TCTGAGCTAC GGATGATT 58

<210> 56
<211> 49
<212> DNA
<213> Artificial Sequence

<220>
<221> misc-feature
<222> Description of Artificial Sequence: Oligonucleotide 5

<400> 56
CGTAACATCC GTATCATCGT CCCACTGAAT AACCGGGAGA ATATCTCAG

49

<210> 57
<211> 49
<212> DNA
<213> Artificial Sequence

<220>
<221> misc-feature
<222> Description of Artificial Sequence: Oligonucleotide 5.1dg

<400> 57
CGTAACATCC GTATCATCGT CCCACTGAAT AACCGGGAGC ACATCTCAG

49

<210> 58
<211> 49
<212> DNA
<213> Artificial Sequence

<220>
<221> misc-feature
<222> Description of Artificial Sequence: Oligonucleotide 6

<400> 58
ACGGACTTGT AGGATCTGAG ATATTCTCCC GGTTATTCAG TGGGACGAT

49

<210> 59
<211> 49
<212> DNA
<213> Artificial Sequence

<220>
<221> misc-feature
<222> Description of Artificial Sequence: Oligonucleotide 6.1dg

<400> 59
ACGGACTTGT AGGATCTGAG ATGTGCTCCC GGTTATTCAG TGGGACGAT

49

<210> 60
<211> 44
<212> DNA
<213> Artificial Sequence

<220>
<221> misc-feature
<222> Description of Artificial Sequence: Oligonucleotide 7

<400> 60
ATCCTACAAG TCCGTTGCGC ACACGCTTCG TATACCACCT GTCA

44

<210> 61
<211> 33
<212> DNA
<213> Artificial Sequence

<220>
<221> misc-feature
<222> Description of Artificial Sequence: Oligonucleotide 8

<400> 61
GATCTGACAG GTGGTATACG AAGCGTGTGC GCA

33

<210> 62
<211> 60
<212> DNA
<213> Artificial Sequence

<220>
<221> misc-feature
<222> Description of Artificial Sequence: Oligonucleotide 9

<400> 62
GATCTGTGTA AGAAGTGTGA TCCAACAGAG GTAGAGCTGG ACAATCAGAT AGTCACTGCA

60

<210> 63
<211> 44
<212> DNA
<213> Artificial Sequence

<220>
<221> misc-feature
<222> Description of Artificial Sequence: Oligonucleotide 9L3A

<400> 63
GATCTGTGTA AGAAGGATGA GGACAGCGCT ACAGAAACCT GCTG

44

<210> 64
 <211> 44
 <212> DNA
 <213> Artificial Sequence

 <220>
 <221> misc-feature
 <222> Description of Artificial Sequence: Oligonucleotide 10L3Δ

 <400> 64
 AATTCAGCAG GTTCTGTAG CGCTGTCCTC ATCCTTCTTA CACA 44

 <210> 65
 <211> 62
 <212> DNA
 <213> Artificial Sequence

 <220>
 <221> misc-feature
 <222> Description of Artificial Sequence: Oligonucleotide 9L3ΔKDEL

 <400> 65
 GATCTGTGTA AGAAGGATGA GGACAGCGCT ACAGAAACCT GCTACGAGAA GGATGAGCTG 60
 TG 62

 <210> 66
 <211> 62
 <212> DNA
 <213> Artificial Sequence

 <220>
 <221> misc-feature
 <222> Description of Artificial Sequence: Oligonucleotide 10L3ΔKDEL

 <400> 66
 AATTCACAGC TCATCCTTCG CGTCGCAGGT TTCTGTAGCG CTGTCCTCAT CCTTCTTACA 60
 CA 62

 <210> 67
 <211> 59
 <212> DNA
 <213> Artificial Sequence

 <220>
 <221> misc-feature
 <222> Description of Artificial Sequence: Oligonucleotide 9.2Δ3

 <400> 67
 GATCTGTGTA AGAAGTCTGA TATCGATGAA GATTCCGCTA CAGAAACCTG CAGCACATG 59

<210> 68
 <211> 59
 <212> DNA
 <213> Artificial Sequence

 <220>
 <221> misc-feature
 <222> Description of Artificial Sequence: Oligonucleotide 10.2Δ3

 <400> 68
 AATTCATGTG CTGCAGGTTT CTGTAGCGGA ATCTTCATCG ATATCAGACT TCTTACACA 59

 <210> 69
 <211> 64
 <212> DNA
 <213> Artificial Sequence

 <220>
 <221> misc-feature
 <222> Description of Artificial Sequence: Oligonucleotide 9.3Δ3/ser68

 <400> 69
 GATCTGTCTA AGAAGTCTGA TATCGATGAA GATTACAGAT TCTTCAGACT ATAGCTACTT 60
 CTAA 64

 <210> 70
 <211> 30
 <212> DNA
 <213> Artificial Sequence

 <220>
 <221> misc-feature
 <222> Description of Artificial Sequence: Oligonucleotide 10.3Δ3/ser68

 <400> 70
 AATCTTCATC GATATCAGAC TTCTTAGACA 30

<210> 71
 <211> 64
 <212> DNA
 <213> Artificial Sequence

 <220>
 <221> misc-feature
 <222> Description of Artificial Sequence: Oligonucleotide 9.3Δ3/val68

 <400> 71
 GATCTGGTTA AGAAGTCTGA TATCGATGAA GATTACCAAT TCTTCAGACT ATAGCTACTT 60
 CTAA 64

 <210> 72
 <211> 30
 <212> DNA
 <213> Artificial Sequence

 <220>
 <221> misc-feature
 <222> Description of Artificial Sequence: Oligonucleotide 10.3Δ3/val68

 <400> 72
 AATCTTCATC GATATCAGAC TTCTTAACCA 30

 <210> 73
 <211> 41
 <212> DNA
 <213> Artificial Sequence

 <220>
 <221> misc-feature
 <222> Description of Artificial Sequence: Oligonucleotide 10

 <400> 73
 ATTGTCCAGC TCTACCTCTG TTGGATCACA CTTCTTACAC A 41

 <210> 74
 <211> 46
 <212> DNA
 <213> Artificial Sequence

 <220>
 <221> misc-feature
 <222> Description of Artificial Sequence: Oligonucleotide 11

 <400> 74
 ACTCAAAGCA ACATTTGCGA TGAGGACAGC GCTACAGAAA CCTGCA 46

<210> 75
 <211> 57
 <212> DNA
 <213> Artificial Sequence

 <220>
 <221> misc-feature
 <222> Description of Artificial Sequence: Oligonucleotide 12

 <400> 75
 GGTTCCTGTA GCGCTCTGCT CATCGCAAAT GTTGCTTTGA GTCGCAGTGA CTATCTG 57

 <210> 76
 <211> 59
 <212> DNA
 <213> Artificial Sequence

 <220>
 <221> misc-feature
 <222> Description of Artificial Sequence: Oligonucleotide 13

 <400> 76
 GCACCTACGA TAGGAACAAA TGCTACACGG CCGTGGTTCC GCTCGTGTAT GGTGGAGAG 59

 <210> 77
 <211> 48
 <212> DNA
 <213> Artificial Sequence

 <220>
 <221> misc-feature
 <222> Description of Artificial Sequence: Oligonucleotide 14

 <400> 77
 GAGCGGAACC ACGGCCGTGT AGCATTGTGT CCTATCGTAG GTGCTGCA 48

 <210> 78
 <211> 50
 <212> DNA
 <213> Artificial Sequence

 <220>
 <221> misc-feature
 <222> Description of Artificial Sequence: Oligonucleotide 15

 <400> 78
 ACAAAAATGG TGGAACTGC CCTTACGCCC GATGCATGCT ATCCGGACTG 50

<210> 79
<211> 69
<212> DNA
<213> Artificial Sequence

<220>
<221> misc-feature
<222> Description of Artificial Sequence: Oligonucleotide 16

<400> 79
AATTCAGTCC GGATAGCATG CATCGGGCGT AAGGGCAGTT TCCACCATTT TTGTCTCTCC 60
ACCATACAC 69

<210> 80
<211> 62
<212> DNA
<213> Artificial Sequence

<220>
<221> misc-feature
<222> Description of Artificial Sequence: Oligonucleotide 15KDEL

<400> 80
ACAAAAATGG TGGAAACTGC CCTTACGCCC GATGCATGCT ATCCGGACAA GGATGAATTG 60
TG 62

<210> 81
<211> 81
<212> DNA
<213> Artificial Sequence

<220>
<221> misc-feature
<222> Description of Artificial Sequence: Oligonucleotide 16KDEL

<400> 81
AATTCACAAT TCATCCTTGT CCGGATAGCA TGCATCGGGC GTAAGGGCAG TTTCCACCAT 60
TTTTGTCTCT CCACCATACA C 81

<210> 82
 <211> 88
 <212> DNA
 <213> Artificial Sequence

 <220>
 <221> misc-feature
 <222> Description of Artificial Sequence: Oligonucleotide P1

 <400> 82
 GATCAGGTCG CTGCCATCCA AGACCCGAGG CTGTTCCGCG AAGAGAAGGC CGTCGCTGAC 60

 TCCAAGTGCA AGTGTGCTCG TATTACTT 88

 <210> 83
 <211> 88
 <212> DNA
 <213> Artificial Sequence

 <220>
 <221> misc-feature
 <222> Description of Artificial Sequence: Oligonucleotide P2

 <400> 83
 CTAGAAGTAA TACGAGCACA CTTGCACTTG GAGTCAGCGA CGGCCTTCTC TTCGGCGAAC 60

 AGCCTCGGGT CTTGGATGGC AGCGACCT 88

 <210> 84
 <211> 10
 <212> Protein
 <213> Artificial Sequence

 <220>
 <221> misc-feature
 <222> Description of Artificial Sequence: Nuclear targeting sequence 1

 <400> 84
 Cys Ala Ala Pro Lys Lys Lys Arg Lys Val
 1 5 10

<210> 85
 <211> 22
 <212> Protein
 <213> Artificial Sequence

 <220>
 <221> misc-feature
 <222> Description of Artificial Sequence: Nuclear targeting sequence 2

<400> 85
 Cys Ala Ala Lys Arg Pro Pro Ala Ala Ile Lys Lys Ala Ala Ala Gly
 1 5 10 15

 Gln Ala Lys Lys Lys Lys
 20

<210> 86
 <211> 4
 <212> Protein
 <213> Artificial Sequence

 <220>
 <221> misc-feature
 <222> Description of Artificial Sequence: HDEL linker sequence for
 intracellular targeting

<400> 86
 His Asp Glu Leu
 1

<210> 87
 <211> 77
 <212> DNA
 <213> Artificial Sequence

<220>
 <221> misc-feature
 <222> Description of Artificial Sequence: Oligonucleotide Tpl

<400> 87
 GCGATGACGA CGATAAGGCC CAAACGGAGA CCTGTACTGT TGCGCCTCGT GAACGGCAAA 60
 ACTGCGGATT CCCGGAA 77

<210> 88
<211> 66
<212> DNA
<213> Artificial Sequence

<220>
<221> misc-feature
<222> Description of Artificial Sequence: Oligonucleotide Tp2

<400> 88

GTTTTGCCGT TCACGAGGCG CAACAGTACA GGTCTCCGTT TGGGCCTTAT CGTCGTCATC 60

GCTTCA 66

<210> 89
<211> 72
<212> DNA
<213> Artificial Sequence

<220>
<221> misc-feature
<222> Description of Artificial Sequence: Oligonucleotide Tp3

<400> 89
GTAAACACCT CTCAGTGCGC TAATAAAGGC TGCTGTTTTG ATGACACGGT ACGGGGCGTT 60

CCGTGGTGCT TC 72

<210> 90
<211> 72
<212> DNA
<213> Artificial Sequence

<220>
<221> misc-feature
<222> Description of Artificial Sequence: Oligonucleotide Tp4

<400> 90
GCCCCGTACC GTGTCATCAA AACAGCAGCC TTTATTAGCG CACTGAGAGG GTGTTACTTC 60

CGGGAATCCG CA 72

<210> 91
 <211> 49
 <212> DNA
 <213> Artificial Sequence

<220>
 <221> misc-feature
 <222> Description of Artificial Sequence: Oligonucleotide Tp5

<400> 91
 TACCCCAATA CAATTGACGT TCCGCCTGAA GAAGAGTGCG AGCCGTAAG

49

<210> 92
 <211> 68
 <212> DNA
 <213> Artificial Sequence

<220>
 <221> misc-feature
 <222> Description of Artificial Sequence: Oligonucleotide Tp6

<400> 92
 AATTCTTACG GCTCGCACTC TTCTTCAGGC GGCAAGTCAA TTGTATTGGG GTAGAAGCAC

60

CACGGAAC

68

<210> 93
 <211> 13
 <212> Protein
 <213> Artificial Sequence

<220>
 <221> misc-feature
 <222> Description of Artificial Sequence: Synthetic peptide linker

<400> 93
 Val Ala Val Gln Ser Ala Gly Thr Pro Ala Ser Gly Ser
 1 5 10